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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/774,535	02/10/2004	Jac-Sung Lee	61610115US	3220

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H.C. PARK & ASSOCIATES, PLC  
8500 LEESBURG PIKE  
SUITE 7500  
VIENNA, VA 22182

EXAMINER

AL NAZER, LEITH A

ART UNIT	PAPER NUMBER
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2821

DATE MAILED: 10/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/774,535

Applicant(s)

LEE ET AL.

Examiner

Leith A. Al-Nazer

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 19 July 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3,7-9,11 and 15 is/are rejected.
- 7) ☒ Claim(s) 2,4-6,10 and 12-14 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

  
TAN HO  
PRIMARY EXAMINER

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 8 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 8 recites "the second electrode". There is a lack of antecedent basis for this limitation in the claim.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 3, 7-9, 11, and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,451,978 to Harju.

With respect to claim 1, Harju teaches a display panel including a plurality of pixels arranged in a matrix pattern (figure 2), a plurality of first electrodes (c1-c6; figure 2) individually formed corresponding to the pixels, a second electrode (rf1, rf2, and r1-

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r6; figure 2) formed in common with the first electrodes, a plurality of light emitting elements provided between the first electrode and the second electrode and including a light emitting layer (column 1, lines 5-8); a scan driver (column 3, lines 23-53) for sequentially selecting respective pixel lines; a data driver (2, 15, and 16) for applying an RGB display signal corresponding to a pixel line of the display panel each time the pixel line is selected (column 3, lines 23-53); and a display controller (2 and 4; figure 1) for using a current value fed back from the second electrode (rf1 and rf2; figure 2) of the display panel and externally input RGB data (column 2, lines 22-42) to correct a white gray level of the RGB data and generate RGB display data, and for providing the generated RGB display data to the data driver (2; figure 2), wherein the display controller determines an amount of emitted light on the corresponding screen according to the fed back current to generate a brightness control reference signal corresponding to the amount of emitted light, and controls the white gray level of the RGB data according to the brightness control reference signal to control the brightness of the display panel (column 2, line 1 – column 3, line 53). Claim 1 requires a plurality of transistors be provided corresponding to the pixels and connected between the first electrodes and a power supply voltage line for controlling the current supply to the EL elements. Although not explicitly stated, such a configuration is inherent in the system of Harju as all EL matrix display systems need multiple transistors associated with each pixel region in order to operate, as is evidenced by U.S. Patent No. 5,952,789 to Stewart et al. (figure 2) or U.S. Patent No. 6,072,517 to Fork et al. (figures 9-11).

With respect to claim 3, Harju teaches the current fed back from the display panel being a summation of currents flowing to the second electrode from the first electrodes of the respective pixels (column 2, lines 1-21).

With respect to claim 7, Harju teaches a display panel including a plurality of pixels arranged in a matrix pattern (figure 2), a plurality of first electrodes (c1-c6; figure 2) individually formed corresponding to the pixels, a plurality of second electrodes (rf1, rf2, and r1-r6; figure 2) commonly formed for a plurality of groups defined by defining the first electrodes as the groups, a plurality of light emitting elements provided between the first electrode and the second electrode and including a light emitting layer (column 1, lines 5-8); a scan driver (column 3, lines 23-53) for sequentially selecting respective pixel lines; a data driver (2, 15, and 16) for applying an RGB display signal corresponding to a pixel line of the display panel each time the pixel line is selected (column 3, lines 23-53); and a display controller (2 and 4; figure 1) for using a current value fed back from at least one second electrode (rf1 and rf2; figure 2) of the display panel and externally input RGB data (column 2, lines 22-42) to correct a white gray level of the RGB data and to generate RGB display data, and for providing the generated RGB display data to the data driver (2; figure 2), wherein the display controller determines an amount of emitted light on the corresponding screen according to the fed back current to generate a brightness control reference signal corresponding to the amount of emitted light, and controls the white gray level of the RGB data according to the brightness control reference signal to control the brightness of the display panel (column 2, line 1 – column 3, line 53). Claim 7 requires a plurality of transistors be

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provided corresponding to the pixels and connected between the first electrodes and a power supply voltage line for controlling the current supply to the EL elements.

Although not explicitly stated, such a configuration is inherent in the system of Harju as all EL matrix display systems need multiple transistors associated with each pixel region in order to operate, as is evidenced by U.S. Patent No. 5,952,789 to Stewart et al. (figure 2) or U.S. Patent No. 6,072,517 to Fork et al. (figures 9-11).

With respect to claim 8, Harju teaches sequentially selecting respective pixel lines (column 3, lines 23-53); applying an RGB display signal (column 2, lines 22-42) corresponding to a pixel line of the display panel each time the pixel line is selected; and using a current value fed back from the second electrode (rf1 and/or rf2; figure 2) of the display panel and externally input RGB data (column 2, lines 22-42) to correct a white gray level of the RGB data and generate RGB display data, and to provide the generated RGB display data to a data driver (2; figures 1 and 2).

With respect to claim 9, Harju teaches a display panel including a plurality of pixels arranged in a matrix pattern (figure 2); a scan driver (column 3, lines 23-53) for sequentially selecting respective pixel lines; a data driver (2, 15, and 16) for applying an RGB display signal corresponding to a pixel line of the display panel each time the pixel line is selected (column 3, lines 23-53); and a display controller (2 and 4; figure 1) for using a current value fed back from an electrode (rf1 and/or rf2; figure 2) of the display panel and externally input RGB data (column 2, lines 22-42) to correct a white gray level of the RGB data and generate RGB display data, and for providing the generated RGB display data to the data driver (2; figure 2), wherein the display controller determines an

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amount of emitted light on the corresponding screen according to the fed back current to generate a brightness control reference signal corresponding to the amount of emitted light, and controlling the white gray level of the RGB data according to the brightness control reference signal to control the brightness of the display panel (column 2, line 1 – column 3, line 53).

With respect to claim 11, Harju teaches the current fed back from the electrode of the display panel being a summation of currents flowing to a second electrode from one or more first electrodes that each correspond to a respective pixel (column 2, lines 1-21).

With respect to claim 15, Harju teaches sequentially selecting respective pixel lines (column 3, lines 23-53); applying an RGB display signal (column 2, lines 22-42) corresponding to a pixel line of the display panel each time the pixel line is selected; and using a current value fed back from an electrode (rf1 and/or rf2; figure 2) of a display panel and externally input RGB data (column 2, lines 22-42) to correct a white gray level of the RGB data and generate RGB display data, and to provide the generated RGB display data to a data driver (2; figures 1 and 2).

### ***Allowable Subject Matter***

5. Claims 2, 4-6, 10, and 12-14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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6. The following is a statement of reasons for the indication of allowable subject matter:

With respect to dependent claims 2 and 10, the prior art of record fails to teach or suggest the display controller comprising the combination of a current voltage converter, an operational controller, a data voltage ratio controller, and a voltage amplifier.

### ***Response to Arguments***

7. Applicant's arguments with respect to claims 1-15 have been considered but are moot in view of the new ground(s) of rejection.

### ***Citation of Pertinent References***

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following references further show the state of the art:

- a. U.S. Patent No. 5,760,757 to Tanaka et al.
- b. U.S. Patent No. 7,064,733 to Cok et al.

### ***Communication Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leith A. Al-Nazer whose telephone number is 571-272-1938. The examiner can normally be reached on Monday-Friday, 7:30-4:00.



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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Callahan can be reached on 571-272-1740. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

LA

  
TAN HO  
PRIMARY EXAMINER